WHAT IS CLAIMED IS:

1. A process for producing a liposome suspension comprising:

(a) providing a pre-mixture to an alcohol solvent, wherein the pre-mixture comprises

(i) a phospholipid compound comprising 40%-70% of the pre-mixture and selected from the group consisting of lecithin, phosphatidylcholine (PC), phosphatidylethanolamine (PE), phosphatidylglycerol (PG), phosphatidylinositol, sphingomyelin (SM), phosphatidic acids, a di(C_{12}-C_{18})acyl derivative of any of the foregoing and a combination of any of the foregoing;

(ii) a cholesterol comprising 10%-30% (w/w) of the pre-mixture; and

(iii) a polyethyleneglycol (PEG)-derived compound comprising 15%-30% (w/w) of the pre-mixture and selected from the group consisting of PEG-PE, methoxy- polyethyleneglycol (mPEG)-PE, a di(C_{12}-C_{18})acyl derivative of either of the foregoing and a combination of any of the foregoing;

wherein the ratio of the alcohol solvent to the total amount of compounds (i), (ii) and (iii) is greater than 5:1;

(b) mixing the pre-mixture obtained in step (a) with an aqueous ammonium sulfate solution to form a mixture, wherein the ratio of the amount of the pre-mixture obtained in step (a) to the aqueous ammonium sulfate solution is 1:2~10 (v/v);

(c) subjecting the mixture obtained in step (b) to a pore-extrusion treatment and forming a pre-liposome suspension; and

(d) dialyzing the pre-liposome suspension obtained in step (c) with a 5%

to 15% sucrose aqueous solution such that a liposome suspension containing liposome particles suspended in the liposome suspension is obtained.

2. The process as claimed in claim 1, wherein the alcohol solvent used in step (a) is selected from the group consisting of fatty alcohol, glycol, methanol, ethanol, i-propanol, ethylene glycol, propylene glycol and a combination of any of the foregoing alcohol solvents.

3. The process as claimed in claim 1, wherein the alcohol solvent used in step (a) is ethanol.

4. The process as claimed in claim 1, wherein the compound (i) used in step (a) is selected from the group consisting of PC, dilauroyl PC, dimyristoyl PC, dipalmitoyl PC, distearoyl phosphatidylcholine (DSPC), dioleoyl PC, dilinoleoyl PC, 1-palmitoyl-2-oleoyl PC and a combination of any of the foregoing compounds.

5. The process as claimed in claim 1, wherein the compound (i) used in step (a) is DSPC.

6. The process as claimed in claim 1, wherein the compound (iii) used in step (a) is selected from the group consisting of PEG-2000-PE, PEG-3000-PE, PEG-4000-PE, PEG-5000-PE, mPEG-2000-PE, mPEG-3000-PE, mPEG-4000-PE, mPEG-5000-PE, a di(C_{12}-C_{18})acyl derivative of the foregoing compounds and a combination of any of the foregoing compounds.

7. The process as claimed in claim 1, wherein the compound (iii) used in step (a) is selected from the group consisting of PEG-2000-DSPE, PEG-3000-DSPE, PEG-4000-DSPE, PEG-5000-DSPE, 1,2-diacyl-SN-glycero-3-phosphatidyl ethanolamine-N-[methoxy(polyethylene glycol)-2000] and 1,2-

diacyl-SN-glycero-3-phosphatidyl ethanolamine-N-[methoxy(polyethylene glycol)-3000], wherein the acyl is myristoyl, palmitoyl, stearoyl or oleoyl.

8. The process as claimed in claim 1, wherein the compound (iii) used in step (a) is PEG-2000-DSPE.

9. The process as claimed in claim 1, wherein the ratio of the amount of the alcohol solvent to the total amount of compounds (i), (ii) and (iii) is 7~10:1 (w/v).

10. The process as claimed in claim 1, wherein the compound (i) is DSPC and the compound (iii) is PEG-2000-DSPE in step (a).

11. The process as claimed in claim 1, wherein step (a) is carried out at 45°C to 70°C.

12. The process as claimed in claim 1, wherein step (a) is carried out at 55°C to 65°C.

13. The process as claimed in claim 1, wherein step (a) is carried out at 60°C.

14. The process as claimed in claim 1, wherein step (b) is carried out at 45°C to 70°C.

15. The process as claimed in claim 1, wherein step (b) is carried out at 55°C to 65°C.

16. The process as claimed in claim 1, wherein step (b) is carried out at 60°C.

17. The process as claimed in claim 1, wherein the equivalent weight of the aqueous ammonium sulfate solution in step (b) is 0.2N to 0.8N.

18. The process as claimed in claim 1, wherein the equivalent weight of

the aqueous ammonium sulfate solution in step (b) is 0.4N to 0.6N.

19. The process as claimed in claim 1, wherein the ratio of the amount of the pre-mixture obtained in step (a) to the aqueous ammonium sulfate solution is 1: 4-8 (v/v).

20. The process as claimed in claim 1, wherein the pore-extrusion treatment in step (c) passes the mixture obtained in step (b) through a device having apertures of 0.05μm to 0.45μm.

21. The process as claimed in claim 20, wherein the device is selected from the group consisting of a syringe having apertures, a filter containing a ceramic filtration membrane or a polycarbonate filtration membrane and a plate or tube having apertures.

22. The process as claimed in claim 1, wherein the pore-extrusion treatment in step (c) is composed of two steps and first passes the mixture obtained in step (b) through a filter having large apertures and then through a filter having small apertures.

23. The process as claimed in claim 22, wherein the large apertures are 0.1 μm and the small apertures are 0.05 μm.

24. The process as claimed in claim 1, wherein step (d) is carried out at room temperature.

25. The process as claimed in claim 1, wherein the obtained liposome suspension is further lyophilized.

26. A process for producing a liposome-encapsulated drug comprising:

mixing a selected drug and a liposome suspension produced by the process as claimed in claim 1 to produce a liposome-encapsulated drug

containing the selected drug in the liposome particles suspended in the liposome suspension.

27. The process for producing a liposome-encapsulated drug as claimed in claim 26, wherein the selected drug is selected from the group consisting of an anthracycline antibiotic and a camptothecin anti-tumor drug.

28. The process for producing a liposome-encapsulated drug as claimed in claim 27, wherein the selected drug is selected from the group consisting of doxorubicin, daunorubicin, irinotecan and vinorelbine.

29. The process for producing a liposome-encapsulated drug as claimed in claim 27, wherein the selected drug is doxorubicin.

30. The process for producing a liposome-encapsulated drug as claimed in claim 26, wherein the selected drug and the liposome suspension are mixed at 45°C to 70°C and then reduced to room temperature such that the selected drug is encapsulated in the liposome particles suspended in the liposome suspension.